



Changing the way companies run their data centers

The Aperture® Suite





OPTIMIZE PERFORMANCE OF YOUR DATA CENTER **WITHOUT COMPROMISING AVAILABILITY**

Reduce your costs 20% and maintain five-nines uptime. Sound familiar?

Data center managers today are under unprecedented internal and external pressures to improve their efficiency without compromising availability. These competing demands and other problems like aging data center infrastructures and the management of heterogeneous equipment, along with new technologies like high-density operation and virtualization, ratchet up the complexity of managing data centers.

Until recently, little attention was paid to the physical infrastructure supporting the systems and how efficiently it was running. Many companies have implemented IT Service Management (ITSM) solutions, but most have stopped at the business service level and have not extended those capabilities

and principles into the physical layer. Now, businesses realize that the most effectively managed data centers will be those with up-to-date, detailed and meaningful information about the underlying configuration (i.e., the foundation) that supports the data center's operation.

Today, more than 250 organizations around the world and leading Fortune 1000 companies including Fujitsu, JPMorgan Chase and the National Institutes of Health have turned to Aperture® solutions to help them optimize data center operations, deliver better services at lower costs and reduce risk.

Aperture is the only enterprise data center infrastructure management solution with proven success in enabling organizations to deliver the highest levels of reliable, efficient IT service that truly aligns with business objectives.



Data Center Infrastructure Management

The complexity of the data center has far outstripped traditional methods for infrastructure management. Unfortunately, the majority of data centers are still managed using ad hoc tools and processes to track individual pieces of equipment or resources. In the past, these tools could suffice. Change was slow and operations static. Today's data centers evolve rapidly. The widespread adoption of virtualization and subsequent requirements for data centers to be agile have rendered traditional tools obsolete.

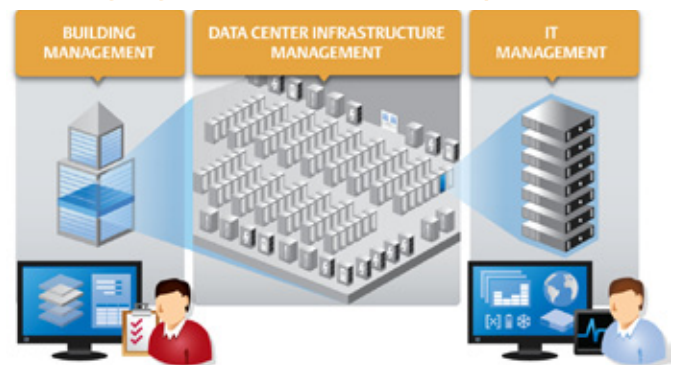
Gartner, Forrester, 451 and other leading analysts recently noted the need for organizations to utilize holistic solutions that address issues of the modern data center.

Data Center Infrastructure Management (DCIM) has emerged as a framework for holistically managing the physical IT resources. It is effectively combining the building management (i.e., facilities) and performance management (i.e., IT) domains.

According to David Cappuccio at Gartner, "Although it will not replace either, DCIM will take facets of each and apply them to data center infrastructures, eventually affecting everything from inventory and change management to capacity planning and carbon footprint reporting."

Today, only Aperture® delivers all aspects of DCIM in a single solution. Aperture enables an organization to holistically manage and optimize data center operations by integrating information about equipment and the resources they use into a comprehensive view of the infrastructure. Within the visual and multi-dimensional Aperture framework, IT organizations use accurate, real-world information to manage enterprise data centers so that they can more effectively deliver predictable, consistent services, support green initiatives, proactively manage capacity and optimize resource use.

Managing the Data Center Gap



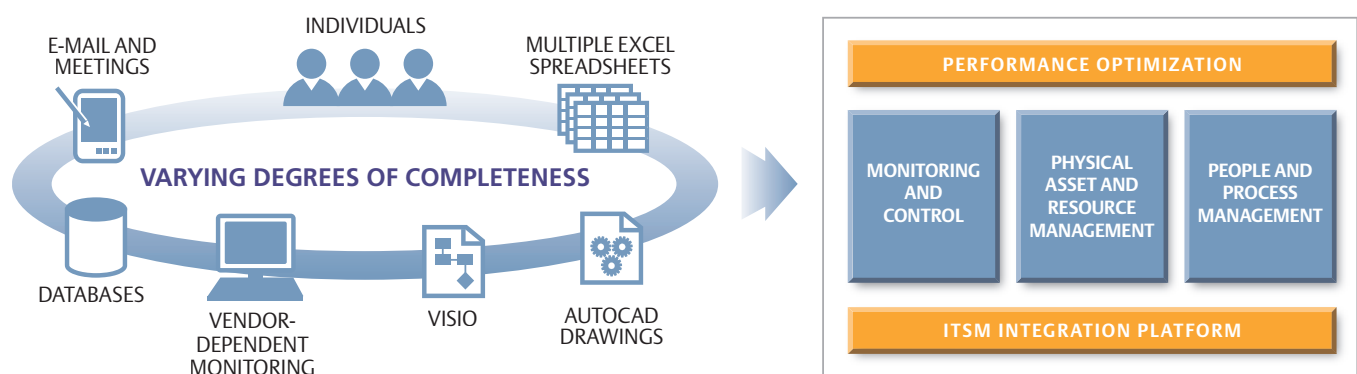
“Before deploying Aperture, we were using spreadsheets and data tables to record trends and enable predictive reporting. This was inaccurate, time consuming and prone to error. By using Aperture, we are able to centralize information in a single database which enables us to maintain accurate and reliable configuration information while enabling the better utilization of operational staff by freeing up valuable time.”

– Robert Innes, global data center manager, Elsevier



Aperture®: Extending ITSM into the Data Center

Aperture fully supports DCIM with a suite of applications that creates a unified view of physical resources across multiple data centers. Aperture addresses five core data center management components so that organizations can enter at different points and evolve based on their current requirements/operational maturity. The solution includes applications for monitoring and control, physical asset and resource management, people and process management, ITSM integration and performance optimization. Organizations can now take control of and optimize an increasingly complex physical infrastructure including equipment, space, power, cooling, network and storage. Designed for complex, enterprise-level data centers, Aperture extends the discipline and principles of ITSM into the data center. By creating an IT view of the physical infrastructure, Aperture bridges the gap between IT and facilities to bring the management of space, power and cooling within the ITSM framework.



“Aperture saves us 480 hours per month on installation and migration tasks and 20 hours per month in auditing in one data center alone. Our customers demand the best in data center management and planning. Aperture enables us to meet their needs while having complete insight into, and control over, our environments.”

– Mark Scott, Head of Customer Data Centers, Fujitsu Services

Aperture® solutions have helped companies reduce time-to-provision servers from two months to two weeks, save millions of dollars through reconciliation of assets and cut hundreds of hours per month off installation time and costs. With Aperture, your organization can:

- Optimize energy, capital resource and process efficiency with risk-adjusted values that provide insight into the actual resource load.
- More effectively rightsize the physical infrastructure and extend data center lifespan with a holistic view of the infrastructure.

- Maintain a single, trusted source of information for the entire data center and its contents within a business service view.
- Visually monitor all data centers through a single, unified solution to eliminate the use of ad hoc tools and processes.
- Automate and standardize data center processes to remove the “human element” and increase the delivery of predictable, high-quality service.



Proven Solutions for DCIM and Optimization

PERFORMANCE OPTIMIZATION	
Aperture® Integrated Resource Manager	Aperture® Capacity Manager
<p>Provides risk-adjusted operational values that enable IT to strategically manage energy, capital resources and process efficiency</p> <ul style="list-style-type: none"> • Aggregate real-time operational data from multiple systems • Use risk-adjusted values for accurate visibility into capacity and remaining headroom • Delay capital expenditure by ensuring resources are sized and used correctly to fully utilize existing infrastructure 	<p>Provides insight into the current state and consumption trends for the data center based on analysis of historical usage patterns.</p> <ul style="list-style-type: none"> • Economically plan expansion/consolidation projects • Understand which resources, including virtual resources, will become limitations for future growth • Project “time remaining” for all data center infrastructure capacities • Identify infrastructure in the context of discrete business-unit categories and spot underutilized rack space

Monitoring and Control	Managing Physical Assets and Resources	Managing People and Processes
Liebert SiteScan™ Web and Liebert Nform™	Aperture® Configuration Manager	Aperture® Infrastructure Process Manager
<p>Uses a network of microprocessor-based control modules to monitor and control precision cooling, power, UPS and other critical equipment.</p> <ul style="list-style-type: none"> • Allows for quick equipment assessment and corrective action, with real-time monitoring and control • Offers many levels of graphic reporting for customized views of supported equipment • Tailors alarm management and reporting to meet site needs 	<p>Models the entire physical environment to effectively manage relationships between IT and facilities assets.</p> <ul style="list-style-type: none"> • Interactive repository of every component including equipment, space (rack/floor), power, cooling, network/ storage connectivity • Data-driven graphics including top-down and elevation (rack) views • Detailed analysis, inventory and planning reports to understand current resource usage of resources and plan efficiencies 	<p>Best practice processes for equipment installation, moves and decommissions to improve efficiency and reduce time-to-market.</p> <ul style="list-style-type: none"> • Web-based, configurable work-process platform • Integration with configuration repository to reduce risks associated with changes • Audit trail of all changes

INTEGRATED INFORMATION
Aperture® Integration Manager
<p>Standardized Web services interface enables organization to integrate Aperture solutions with other IT management systems.</p> <ul style="list-style-type: none"> • SOAP-based integration layer and tools • Support for data- and process-driven interfaces to Aperture solutions • Upgradeable, transaction-driven architecture reduces cost of ownership

A Day in the Life with Aperture®

IT Executive/Management

Senior executives demonstrate the strategic value of IT with proactive forecasting aligned with business goals, greater control over data center operations and continuous uptime.

- Real-time and risk-adjusted operational data facilitates accurate resource planning to reduce capital expenditure and optimize resource efficiency
- Common system of record for equipment in multiple data centers delivers comprehensive, accurate information for planning and managing data center resources
- Standardized processes provide greater predictability and control while increasing IT's ability to respond quickly to changing business conditions
- Real-time monitoring of all data center resources provides immediate insight to improve resource allocation, energy efficiency, usage projections and capacity planning

Data Center Management

Data center management gains increased credibility with reliable service delivered with a high degree of professionalism and standardization.

- Desktop access to accurate, real-time and unified information
- High-level dashboard for an intuitive snapshot that enables a quick assessment of infrastructure performance
- Detailed visibility into actual capacities of physical and virtual assets with in-depth reports on current state and future needs
- Standard process for installing equipment to reduce errors and shorten installation time
- Audit trail of everyone entering the data center

Data Center Facilities Management

Facilities management ensures data center uptime and forestalls outages with accurate insight into power loads.

- Power readings automatically gathered for each device and incorporated into the planning model
- Single, trusted system of record for automatically generated breaker schedules
- Outage analysis with details of impact on equipment, including business criticality and contact information



“A major barrier to improved energy efficiency is the difficulty of collecting data on the energy consumption of individual components of data centers and the lack of data collection on many data centers overall.”

– US Environmental Protection Agency

Emerson Network Power.

The global leader in enabling *Business-Critical Continuity™*.

- | | | | |
|----------------|----------------------|--|-------------------------------|
| ■ AC Power | ■ Embedded Computing | ■ Infrastructure Management & Monitoring | ■ Precision Cooling |
| ■ Connectivity | ■ Embedded Power | ■ Outside Plant | ■ Racks & Integrated Cabinets |
| ■ DC Power | ■ Industrial Power | ■ Power Switching & Controls | ■ Services |

Emerson, Business-Critical Continuity, Emerson Network Power and Aperture are trademarks of Emerson Electric Co. or one of its affiliated companies. ©2011 Emerson Electric Co.
1211-APTSUITE-BRO-EN

EMERSON. CONSIDER IT SOLVED.™